MONTHLY OBSERVER'S CHALLENGE

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&

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Report #173

NGC 5775 and NGC 5774, Galaxies in Virgo

Sharing Observations and Bringing Amateur Astronomers Together

Introduction

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It's open to everyone who's interested, and if you're able to contribute notes and/or drawings, we'll be happy to include them in our monthly summary. Visual astronomy depends on what's seen through the eyepiece. Not only does it satisfy an innate curiosity, but it allows the visual observer to discover the beauty and the wonderment of the night sky. Before photography, all observations depended on what astronomers saw in the eyepiece, and how they recorded their observations. This was done through notes and drawings, and that's the tradition we're stressing in the Observer's Challenge. And for folks with an interest in astrophotography, your digital images and notes are just as welcome. The hope is that you'll read through these reports and become inspired to take more time at the eyepiece, study each object, and look for those subtle details that you might never have noticed before.

This month's target:

William Herschel discovered NGC 5775 with his 18.7-inch speculum-metal mirror on May 27, 1786. Herschel's hand-written journal reads: *Very faint, extended, small, from north preceding to south following, but nearly in the meridian.*

NGC 5774 was found by Bindon Stoney on April 26, 1851 with Lord Rosse's 72-inch speculum metal reflector. His description of the galaxy pair simply reads: *A long ray with another nebula about 3' preceding and a little north.*

Some of our participants have also captured the little galaxy IC 1070 in their sketches and images. It was discovered by French astronomer Stéphane Javelle on June 3, 1891. This petite galaxy shines at visual magnitude of roughly 14½ and covers a diminutive 0.7×0.3 arcminutes of sky. The number of original deep-sky discoveries credited to Javelle varies from source to source, but the total is more than 1400. Javelle searches were carried out at the Nice Observatory with its 30-inch refractor.

Uwe Glahn: Observer from Germany

Object : NGC 5774, NGC 5775, and IC 1070

Telescope: 27″ f/4.2 Newton

Magnification: 293 - 419×

NELM: fst 6m5+

Seeing: III

Location: Sudelfeld

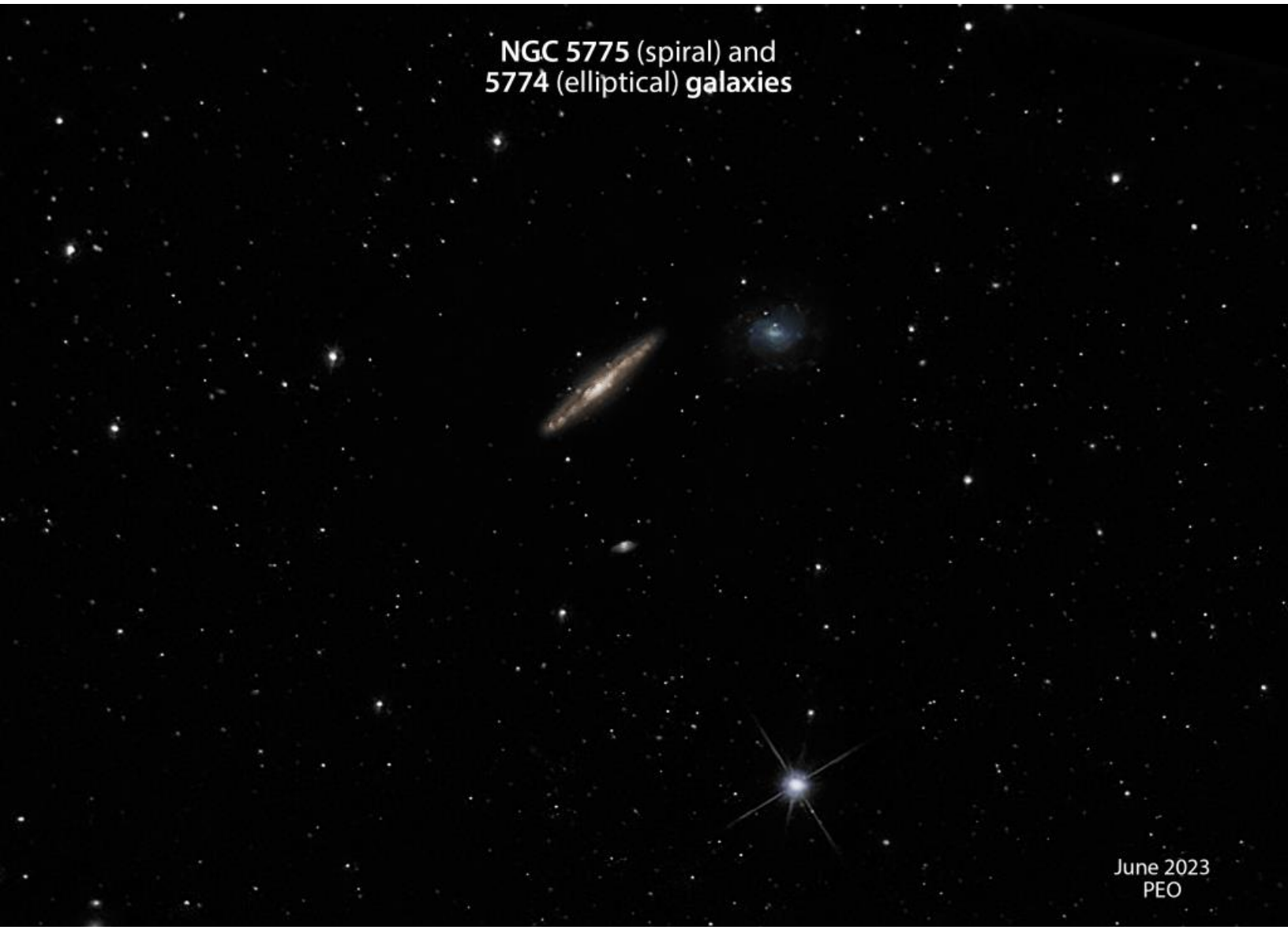
Sketch follows.

You can see more of Uwe's sketches at http://www.deepsky-visuell.de/

Phil Orbanes: Observer from Massachusetts

This pair of galaxies is part of the Virgo Cluster, but much farther away than most other galaxies in the group, at 70 million light years. They appear small and are a challenge for my 14-inch telescope. The edge-on spiral NGC 5775 is interacting the nearby companion, NGC 5774. It is likely, the two are in the early stages of a merger and possibly a star formation is occurring in the area between the pair.

My RBG photo includes about four hours of imaging per channel with my 14-inch PlaneWave reflector and FLI 16803 CCD camera.



Larry McHenry: Observer from Pittsburgh, Pennsylvania

http://stellar-journeys.org

The spiral galaxy pair **NGC 5774 & 5775** is located in the spring constellation of Virgo.

NGC 5774 is a face-on SAB type spiral about 71 million light-years distant. NGC 5775 is a spindle Sbc spiral about 66 Mly distant. Both galaxies appear to be interacting and may be in the process of merging.

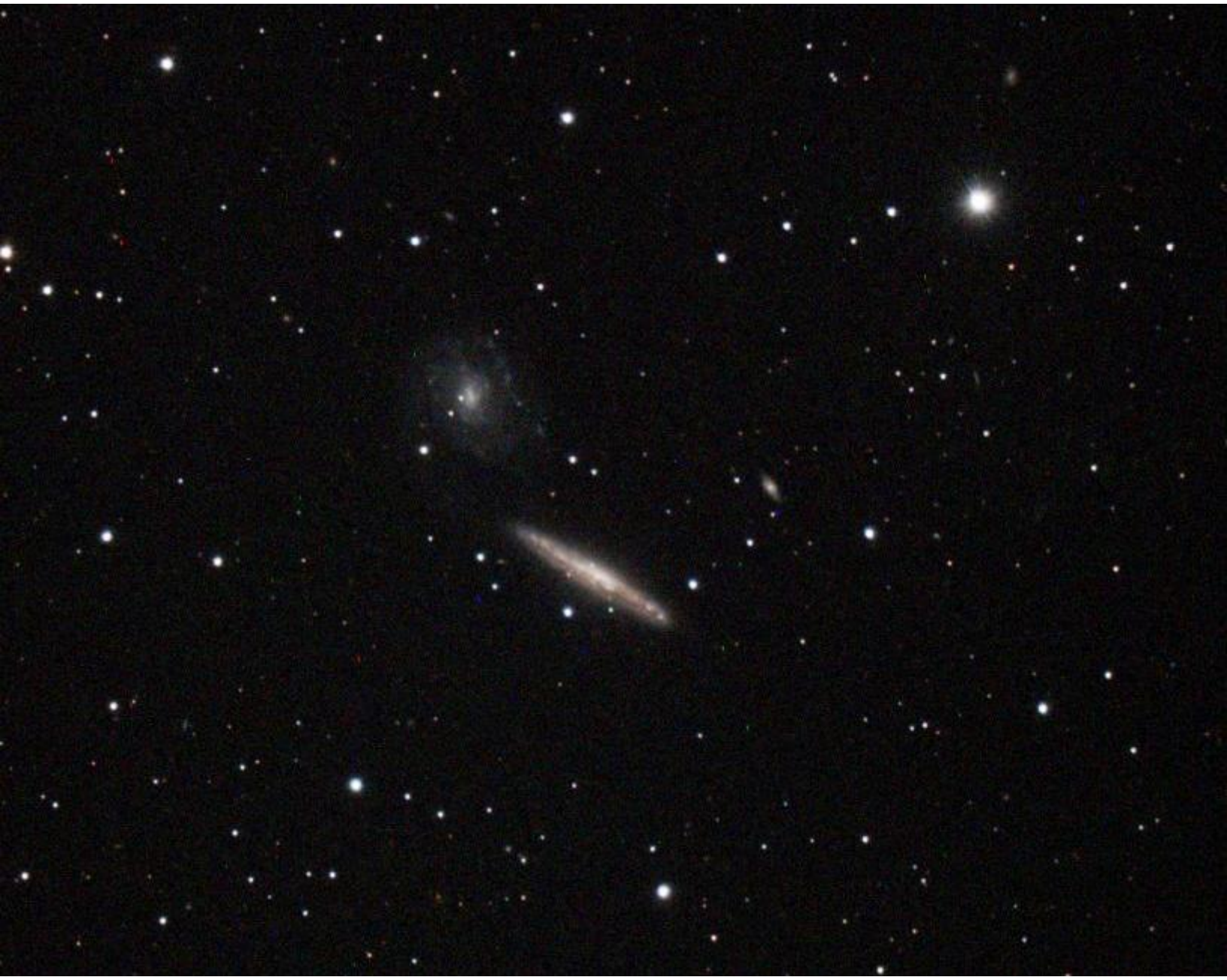
NGC 5775 (H3 554) was discovered on the night of May 27th, 1786 by William Herschel using his 20-ft reflector, at his home in Slough, near Windsor Castle. NGC 5774 was not seen by Herschel.

Using an 8-inch SCT optical tube @ f/6.3 on a GEM mount, with a CMOS color camera and broadband filter, 180-second guided exposure, live-stacked for 30 minutes.

Using EAA techniques: NGC 5775 stands out well from the surrounding star field, displaying a bright spindle-shape with a mottled dark lane bisecting the galaxy, with bright knots visible. The fainter face-on spiral NGC 5774 displays a bright core with a central bar, along with several spiral arms containing knots. A pretty example of a face-on and spindle galaxies together in the same field-of-view!

Image follows.

Video-Capture/EAA: 04/19/2023, from Calhoun County Park in West Virginia.



Magda Streicher: Observer from South Africa

NGC 5774, NGC 5775 and IC 1070 – Galaxies in Virgo

Telescope: 16-inch

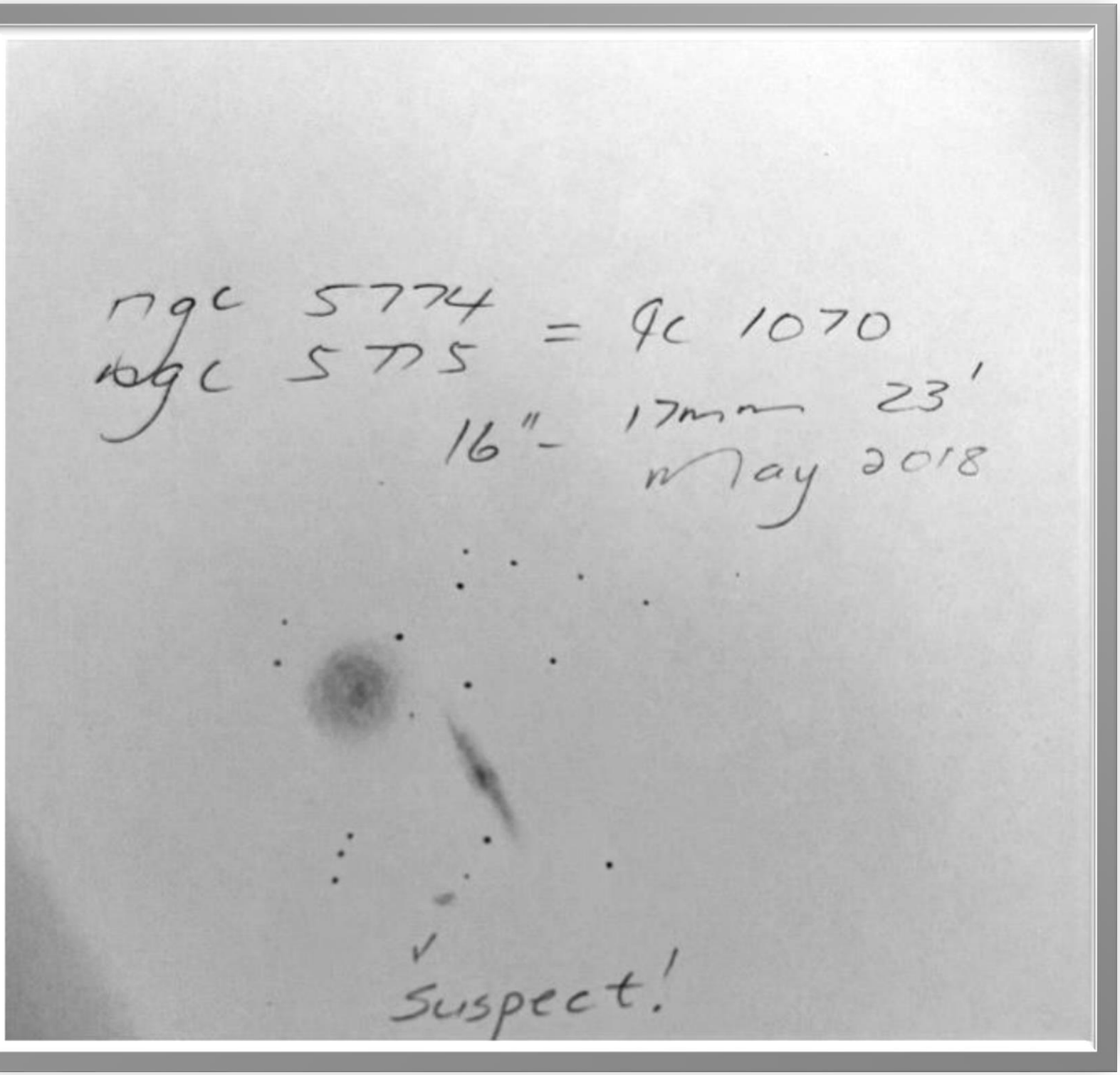
Sketch Magnifications: 102x – 127x – 462x – Eyepiece 17mm, 12mm

NGC 5774 shows up as a really faint, large round puff of light with a very small nucleus. Very hazy outer envelope and gaseous surrounding can be detected with careful observation. A few stars surround the galaxy, which is situated in a relatively barren star-field.

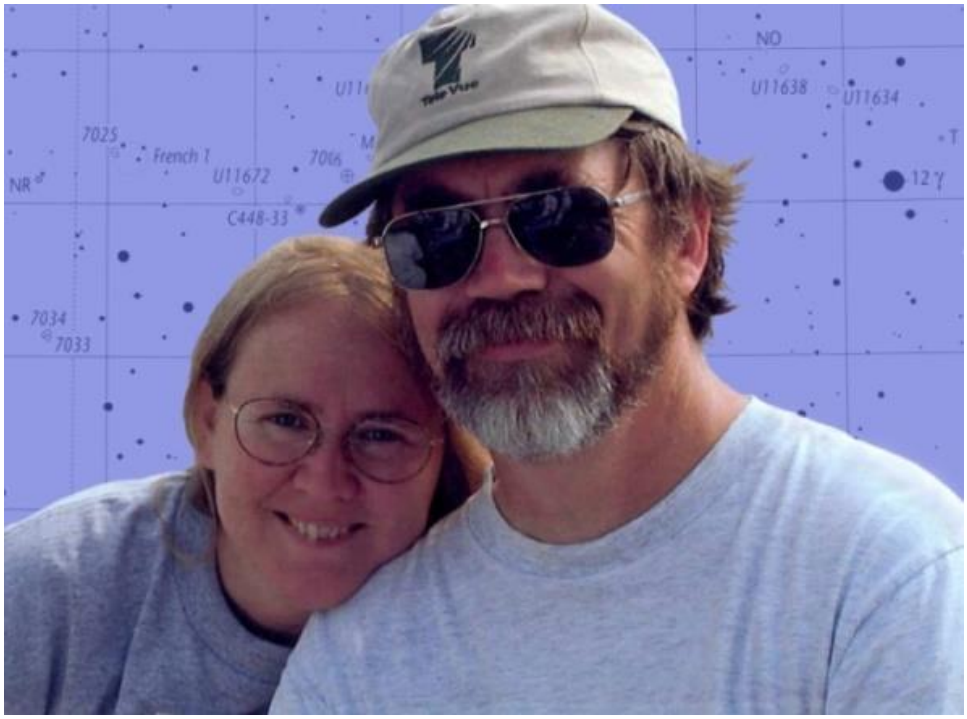
The slightly brighter elongated spindle galaxy is situated only 3.8 arc minutes towards the southeast. It bulges towards the middle with a glowing nucleus centered on the extended envelope. Difficult to estimate its size due to the faint hazy tips that fades away into the distance.

Faint stars show the way south to the extremely small galaxy IC 1070. I try my utmost best to glimpse IC 1070, suspected it strongly with averted vision on two more nights.

Sketch Follows.


ngc 5774 = qc 1070
ngc 5775
16" - 17mm 23'
May 2018
Suspect!

Sue French: Observer from New York



An interesting galaxy pair lies 2.5° northeast of 109 Virginis. KPG 440 consists of the face-on spiral **NGC 5774** and the edge-on spiral **NGC 5775**. Only the latter is visible in my little refractor. At 47× I see a uniformly lit spindle, tipped approximately northwest, making a squat isosceles triangle with two 9th-magnitude stars to the south. Closer examination reveals no further detail. In my 10-inch reflector at 118×, NGC 5775 becomes slightly patchy and covers 4′ × 1′. Just a few arcminutes west-northwest, NGC 5774 is perceptible as a much fainter, slightly oval glow about half as long as its neighbor.

Studies indicate that gas and stars are flowing from NGC 5774 to NGC 5775. Many of the stars are too young to have formed in their parent galaxy and must have been born in the vast spaces between. This remarkable pair is about 87 million light-years from Earth.

Mario Motta: Observer from Massachusetts

Image an details follow.

An Interesting interacting pair, but for the imagers it was difficult to process, due to the relative brightness differences between NGC 5775 and NGC 5774. Either 5774 was dimmer or 5775 was blown out too bright when processing. I finally solved it by creating individual digital masks for each galaxy, then optimally processing each of them. It will be interesting if visual observers note the brightness difference. (Note: I did not have the chance to observe visually)

These galaxies are 70 MLY away in Virgo and are an interacting pair. Looking closely you can see a spiral arm in NGC 5774 being pulled out and flowing into 5775, which took some teasing digitally to preserve this detail in my image. This is similar to the interaction in M51. Also, NGC 5775 is well known to have an intense “vertical’ magnetic field around the galaxy as seen with the radio VLA.

This image was taken with Lum, R/G/B, and a touch of Ha. Approximately five hours of imaging in all, then processed in PixInsight with special processing to bring out the faint detail, especially in NGC 5774.

The following image was made using my 32-inch f/6.5 telescope, and ZWO ASI6200 camera

Mark Helton: Observer from Massachusetts

Well, this was indeed a challenge given the smoke filled skies we have had here north of Boston. Very cool target. Imaged on May 13/14. 35 images at 180 sec with my C8 at 1450mm, no filter. ZWO533MCpro camera all on an Ioptron HEM44EC mount. Processed using PixInsight, and Photoshop. Considering these galaxies are around 71 million light years away, I am pretty happy with this image. Processing could be a little better, but I am learning! Clear Skies, Mark Great Neck Observatory Ipswich MA

Roger Ivester: Observer from North Carolina

NGC 5774/5: Galaxies in Virgo

Date: Friday June 9, 2023

Telescope: 10-inch f/4.5 Equatorial Newtonian

Sketch Magnification: 160x

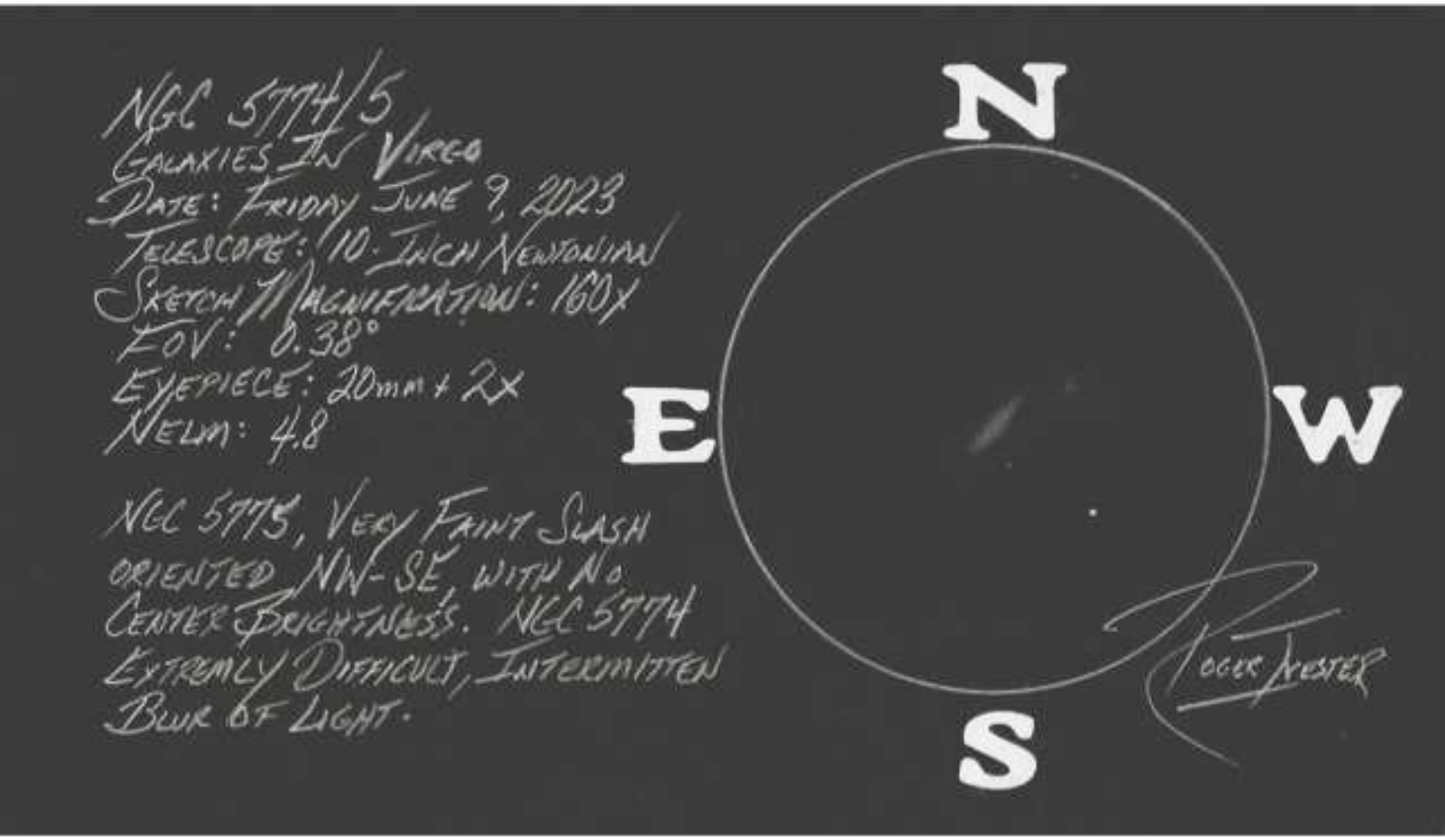
Field of View: 0.38º

Eyepieces: 20mm + 2.8x Barlow

NELM: 4.8

NGC 5775 appears as a very faint slash, oriented NW-SE with little to no center brightness. Companion galaxy NGC 5774 is extremely difficult requiring averted vision, and could not be viewed constantly, appearing as an intermittent blur of light.

Sketch follows



The following is the complete listing of all Observer's Challenge reports to-date.

https://rogerivester.com/category/observers-challenge-reports-complete/